WHAT IS CLAIMED IS:

1. A system for delivering a stent into an anatomical structure, the system comprising:

an outer tubular structure having a proximal end and a distal end;

an inner elongated structure having a proximal end and a distal end, the inner elongated structure being located within the outer tubular structure such that the distal end of the inner elongated structure substantially coincides with the distal end of the outer tubular structure;

a stent accommodating area on the distal end of the inner elongated structure; and

an external tubular structure contact area projecting from a surface of the inner elongated structure and located proximal to the stent accommodating area, the external tubular structure contact area frictionally sliding against an interior surface of the outer tubular structure.

2. The system of claim 1, wherein the external tubular structure contact area on the inner elongated structure is constructed of Pellethane.

3. The system of claim 1, wherein the external tubular structure contact area on the inner elongated structure comprises a plurality of external tubular structure contact areas projecting from the surface of the inner elongated structure.

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4. The system of claim 3, wherein each external tubular structure contact area on the inner elongated structure is separated from other external tubular structure contact areas.

5. The system of claim 4, wherein each subsequently proximal external tubular structure contact area on the surface of the inner elongated structure increases in durometer from the distal end to the proximal end of the inner tubular structure.

6. The system of claim 5, wherein the most distal external tubular structure contact area on the surface of the inner elongated structure has a durometer measure of 55D.

7. The system of claim 6, wherein each subsequent proximal external tubular structure contact area has a durometer measure greater than 55D.

8. The system of claim 7, wherein there are three external tubular structure contact areas.

9. The system of claim 8, wherein the durometer measures of the three external tubular structure contact areas on the surface of the inner tubular structure from the distal end proximally are 55D, 65D, and 75D.

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10. The system of claim 1, wherein the outer tubular structure has a translucent region at its distal end.

11. The system of claim 10, wherein the translucent region has a length that substantially coincides with a constrained length of a stent within the outer tubular structure.

12. The system of claim 1, further comprising a stent located in the stent accommodating area and within the outer tubular structure when the stent is constrained.

13. The system of claim 1, further comprising:

a gap between an external surface of the inner elongated structure and the interior surface of the outer tubular structure.

14. An inner elongated structure for a tubular stent delivery device used in deploying a stent into an anatomical structure, the inner elongated structure comprising:

an elongated structure;

a stent accommodating area on a distal end of the elongated structure and shaped to receive a constrained length of a stent; and

an engagement area projecting from the surface of the elongated structure and located proximal to the stent accommodating area, the engagement area

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able to frictionally slide against an interior surface of an outer tubular structure of a stent delivery device.

15. The structure of claim 14, further comprising:

a stent positioned in the stent accommodating area.

16. The structure of claim 14, wherein the engagement area on the elongated structure is constructed of Pellethane.

17. The structure of claim 14, wherein the engagement area on the elongated structure comprises a plurality of engagement areas projecting from the surface of the elongated structure.

18. The structure of claim 17, wherein each engagement area on the elongated structure is separated from other engagement areas.

19. The structure of claim 18, wherein each subsequently proximal engagement area on the surface of the elongated structure increases in durometer from the distal end to the proximal end of the elongated structure.

20. The structure of claim 19, wherein the most distal engagement area on the surface of the elongated structure has a durometer measure of 55D.

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21. The structure of claim 20, wherein each subsequent proximal engagement area has a durometer measure greater than 55D.

22. The structure of claim 21, wherein there are three engagement areas.

23. The structure of claim 22, wherein the durometer measures of the three engagement areas on the surface of the elongated structure from the distal end proximally are 55D, 65D, and 75D.

24. An inner elongated structure for a tubular stent delivery device used in deploying a stent into an anatomical structure, the inner elongated structure comprising:

an elongated structure;

stent accommodating means for accommodating a constrained length of a stent at a distal end of the elongated structure; and

engagement means for frictionally engaging the elongated structure with an interior surface of an outer tubular structure of a stent delivery device.

25. The structure of claim 24, further comprising:

a stent positioned in the stent accommodating means.

26. The structure of claim 24, wherein the engagement means on the elongated structure is constructed of Pellethane.

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27. The structure of claim 24, wherein the engagement means on the elongated structure comprises a plurality of engagement means projecting from the surface of the elongated structure.

28. The structure of claim 27, wherein each engagement means on the elongated structure is separated from other engagement means.

29. The structure of claim 28, wherein each subsequently proximal engagement means on the surface of the elongated structure increases in durometer from the distal end to the proximal end of the elongated structure.

30. The structure of claim 29, wherein the most distal engagement means on the surface of the elongated structure has a durometer measure of 55D.

31. The structure of claim 30, wherein each subsequent proximal engagement means has a durometer measure greater than 55D.

32. The structure of claim 31, wherein there are three engagement means.

33. The structure of claim 32, wherein the durometer measures of the three engagement means on the surface of the elongated structure from the distal end proximally are 55D, 65D, and 75D.

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34. A method of deploying a stent with respect to an anatomical structure, the method comprising:

providing a stent delivery system, the system comprising:

an outer tubular structure having a proximal end and a distal end;

an inner elongated structure having a proximal end and a distal end, the inner elongated structure being located within the outer tubular structure such that the distal end of the inner elongated structure substantially coincides with the distal end of the outer tubular structure;

a stent accommodating area on the distal end of the inner elongated structure accommodating a stent; and

an external tubular structure contact area projecting from a surface of the inner elongated structure and located proximal to the stent accommodating area, the external tubular structure contact area frictionally sliding against an interior surface of the outer tubular structure;

inserting the stent delivery system through an insertion point in a body until the distal ends of the external tubular structure and the inner elongated structure are in a position within the anatomical structure;

moving the outer tubular structure proximally while maintaining the position of the inner elongated structure, thus exposing the stent accommodating area and releasing at least part of the stent into the anatomical structure; and

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continuing the proximal movement of the outer tubular structure with respect to the inner elongated structure until the stent is completely deployed into the anatomical structure; and

withdrawing the stent delivery system from the insertion point in the body.

35. The method of claim 34, further comprising:

before completely deploying the stent into the anatomical structure, moving the inner elongated structure proximally while maintaining the position of the outer tubular structure, thus retracting the at least part of the stent from the anatomical structure back into the stent accommodating area; and

re-positioning the stent delivery system to a new position with respect to the anatomical structure.

36. The method of claim 34, wherein the external tubular structure contact area on the inner elongated structure is constructed of Pellethane.

37. The method of claim 34, wherein the external tubular structure contact area on the inner elongated structure comprises a plurality of external tubular structure contact areas projecting from the surface of the inner elongated structure.

38. The method of claim 34, wherein each external tubular structure contact area on the inner elongated structure is separated from other external tubular structure contact areas.

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39. The method of claim 38, wherein each subsequently proximal external tubular structure contact area on the surface of the inner elongated structure increases in durometer from the distal end to the proximal end of the inner tubular structure.

40. The method of claim 39, wherein the most distal external tubular structure contact area on the surface of the inner elongated structure has a durometer measure of 55D.

41. The method of claim 40, wherein each subsequent proximal external tubular structure contact area has a durometer measure greater than 55D.

42. The method of claim 41, wherein there are three external tubular structure contact areas.

43. The method of claim 42, wherein the durometer measures of the three external tubular structure contact areas on the surface of the inner tubular structure from the distal end proximally are 55D, 65D, and 75D.

44. The method of claim 34, wherein the outer tubular structure has a translucent region at its distal end.

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45. The method of claim 44, wherein the translucent region has a length that substantially coincides with a constrained length of a stent within the outer tubular structure.

46. The method of claim 44, wherein the stent delivery system further comprises:

a gap between an external surface of the inner elongated structure and the interior surface of the outer tubular structure.

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